

BASE OPERATIONS
(Revised September 2001)

8330

GENERAL
(Revised September 2001)

8331

This part of the Base Operations chapter expands upon the provisions of the General Operating Rules and Guidelines that apply specifically to air attack and helitack base operations.

The base air attack officer or helitack captain are responsible for informing all assigned personnel of the provisions of this handbook.

MAINTAINING SAFE WORKING CONDITIONS
(Revised September 2001)

8331.1

All air attack and helitack managers are responsible for monitoring base working conditions and assuring safe operations.

Managers will also provide for safety training and development of safe operating procedures consistent with the IIPP and the 1700 handbook to prevent problems.

Safety aspects will be included in operational training.

All work projects will be carried out according to written Project Safety Work Plans and be preceded by a safety briefing.

The Base Manager will conduct safety sessions according to the IIPP.

Assistance in developing base safety plans is available by contacting the Aviation Management Unit staff safety officer through normal communications channels.

Employees are responsible for the safety of all personnel and the maintaining of a safe working environment. All personnel must remain alert for safety problems and take positive action to reduce risks and eliminate hazards by:

Correcting problems as quickly as possible whether they are operational in nature or associated with facilities and equipment.

Correcting operational problems by involving all concerned personnel to assure teamwork and prevent recurrence of problems.

Making sure all persons affected are advised of safety hazards that cannot be immediately corrected.

Informing managers of safety problems as they are discovered or occur. (Managers must, take appropriate action either to correct problems or check action taken to assure the problems are corrected.)

All personnel must be aware of their own physical limits and plan work accordingly.

Watch for signs of fatigue in yourself and others working around you.

- Fatigue will often manifest itself in the form of mistakes in performing routine jobs.
- Fatigue may be indicated by altered attitudes and a reduced concern for safety and mission objectives.

Plan regularly scheduled rest periods when operations permit, to prevent fatigue.

During periods of high activity adequate rest is especially critical for operating safely.

If regular rest periods cannot be taken due to intense activity, additional personnel should be employed to permit frequent short rest periods for all personnel in rotation.

Additional help should be requested when the span of control or job of any individual becomes so broad that safety may be compromised.

All personnel requested or hired must be trained to the extent necessary to perform the job safely and must meet all required qualifications for the position.

INSPECTIONS AND MAINTENANCE

8331.2

(Revised September 2001)

Air attack and helitack base managers are responsible for daily inspections to detect safety and operating problems.

Base management/supervisory personnel should make general inspections of base facilities and aircraft each morning during the fire season or operating period.

General condition of facilities, work areas, public viewing areas, aircraft parking pads and taxiways.

Inspect aircraft loading pits, ramps, parking areas and taxiways for FOD (aside from debris and other foreign objects this would include materials from the breakdown of the pavement surfaces) to avoid injury from flying objects, damage to propellers or engine damage by ingestion of these materials by turbine engines.

Operating condition of equipment and systems.

Security of facilities, aircraft, vehicles, equipment, fuel and oil, communications systems and tools.

Loose material and retardant, oil or fuel spills in work areas, on aircraft pads and taxiways.

Pilots are responsible for assuring the airworthiness of their aircraft, including making pre-standby and pre-flight inspections using factory checklists. Engine run-up will be performed as required prior to start-up time each day.

Air attack and helitack personnel are encouraged to accompany flight crews during aircraft inspections to expand their understanding of aircraft operating systems and functions

Base personnel involvement is encouraged for the periodic inspections made by the Aviation Management Unit staff, such as "carding inspections," etc. with the aviation maintenance officer and safety officer.

Complete facility inspections of buildings, work areas, grounds and systems will be made As per the 1700 Handbook (Refer to the CDF, Health & Safety Procedures Handbook 1700.)

Base maintenance and construction projects require project safety work plans to be posted and safety "tailgate" sessions to be completed prior to work any being started.

Additional references for facility and work area safety specifications include the California Occupational Safety and Health (Cal-OSHA) and U.S. Forest Service safety handbooks.

Vehicles and equipment will be inspected and maintained using the Mobile Equipment Procedures Handbook.

Individual base operating plans will include the specifications and procedures for making safety inspections and correcting problems.

The base manager shall insure that all tools and equipment are inspected and maintained in serviceable condition. This will include all tools and equipment in the base, on mobile equipment and on aircraft.

Place signs denoting restricted access and identifying loading pads so as to be effective while not constituting a hazard to aircraft.

Specialized base equipment and systems will be included in regularly scheduled maintenance inspections.

Base operating plans will include instructions for performing preventative maintenance, such as postseason "winterizing" and preseason preparation.

Base personnel will normally perform minor engine maintenance such as filter and oil changes, gasket and replacement, etc., in accordance with Mobile Equipment Procedures Handbook.

Major maintenance and repairs will be referred to equipment maintenance personnel by appropriate means and recorded on form ME-14, Faulty Equipment Report.

Major repairs to electric motors and pumps may be done as contracted for by each base with local commercial repair shops.

When possible, major maintenance work should be anticipated and planned for completion during the off-season.

SPECIAL BASE RESTRICTIONS

8331.3

(Revised September 2001)

Special aircraft operating requirements and/or restrictions exist at some bases due to safety, noise abatement, facility limitations or other considerations. Any of these requirements should be part of the base operating guide.

Air attack and helitack base managers must be knowledgeable of existing limits and considerations. Base managers must inform pilots of any special base restrictions or nonstandard aircraft operating procedures to be used at the base.

Some examples of this type of requirement include:

Special flight patterns for avoiding hazards or populated areas.

Landing and/or takeoff patterns different from those used by general aviation aircraft.

Special taxi routes for avoiding congested airport areas or sections of weak pavement.

These types of requirements may apply to temporary operations at reload bases and incident helibases/helispots, as well as permanent bases.

If possible, flight routes should be designed to avoid:

Low flight over populated areas, schools, hospitals, farms and ranch animals.

Congested airspace and conflicting aircraft operations.

Special operating requirements/restrictions must be included in base operating plans and training programs, and the information supplied to the Aviation Management section for publication in the CDF Flight Guide.

Base managers must enforce applicable restrictions and special operating procedures.

Inform all home base and transient pilots of the special requirements.

Observe taxi and flight patterns to confirm compliance with the rules.

Noncompliance should be dealt with immediately.

Pilot complaints of unsafe operating procedures resulting from special restrictions, and/or persistent noncompliance by a pilot, should be referred immediately to the Aviation Management Unit staff for review and action.

Any CDF operation that is potentially unsafe due to airport restrictions will be adjusted to correct the situation.

Contact the Aviation Management section immediately through channels for review and action to correct the situation.

Alternative procedures should be worked out with pilots and responsible local officials to meet mutual needs.

If acceptable alternative procedures cannot be worked out, the base will be restricted to operations by those aircraft that can operate safely within the restrictions.

MAPS AND FLIGHT GUIDES

8331.4

(Revised September 2001)

Each air attack and helitack base will maintain and display maps for dispatching aircraft both within and outside the base zone-of-influence. Sources, maintenance and location of maps and flight guides will be part of the base operating guide.

DISPATCH MAPS

8331.4.1

(Revised September 2001)

AMU will annually provide updated maps to each ECC and air attack and helitack base showing aircraft assignments and base operating limitations.

FLIGHT HAZARD MAPS
(Revised September 2001)

8331.4.2

Flight hazard maps will be prepared, updated and displayed at each base showing prohibited and restricted areas, as well as permanent flight hazards and areas requiring special low level flight precautions.

ADDITIONAL MAPS
(Revised September 2001)

8331.4.3

Additional maps may be needed or useful at bases, such as response area maps and detailed zone-of-influence maps showing such items as sections, political boundaries or terrain features.

FLIGHT GUIDES
(Revised September 2001)

8331.4.4

Pilots are responsible for maintaining current flight maps in their aircraft for all areas in which they may be expected to operate. These maps should include the appropriate sectional or World Aeronautics Chart (WAC) charts, and terminal control area maps.

Flight guides are particularly useful to pilots, air attack supervisors and helitack captains for operations in unfamiliar areas.

A CDF base flight guide will be compiled and updated by the Aviation Management Unit staff and supplied to all ECC's, air attack and helitack bases and CDF aircraft.

Air attack and helitack managers must submit changes in flight pattern requirements, frequencies, etc., as they occur.

Some commercial flight guides are especially useful for operating to and from unfamiliar airports, when looking for VOR information, traveling through various FAA classified airspaces such as Class B and locating facilities.

Each base should subscribe to and maintain one of these guides.

BASE SECURITY
(Revised September 2001)

8331.5

GENERAL
(Revised September 2001)

8331.5.1

All Air attack and helitack base gates, doors and windows will be kept locked during non-operating periods to discourage unauthorized entry and prevent accidental trespassing. The installation, maintenance and use of security lighting and/or alarm systems is recommended to help prevent property loss and damage due to theft and vandalism.

Provisions to maintain requirements of the FAA and any other controlling entity such as controlled access or employee identification should be identified and addressed.

Personnel, vehicles and aircraft will not be permitted access to the CDF controlled working and aircraft operating areas at any time without proper authorization.

Signs will be posted at all entry points to air attack base operating areas to prevent accidental entrance by unauthorized personnel.

All base managers are responsible for providing adequate supervision of visitors to ensure their safety.

AIRCRAFT AND BASE SECURITY PLAN (No. 13 October 2003)

8331.5.2

To provide for a consistent and ongoing security program, an Aircraft and Base Security Plan will be developed as an element of each Base Operating Guide. The plan will describe the methods by which all aircraft, aircraft support equipment, retardant mixing, storage, and loading facilities, and other base facilities will be secured against tampering and/or theft.

At a minimum, every Aircraft and Base Security Plan will address the following items:

- Security Plan must specify the responsibility of the Base Manager and other personnel for all aspects of security
 - Base Manager responsibilities
 - Provide or coordinate training for all personnel on security plan
 - Ensure that all transient aircraft are met by base personnel
- Plan must include contact information for local law enforcement, fire response and hazardous materials personnel
- Plan must identify what areas of facility are “Restricted”
- Plan must identify what tamper proof/tamper-evident seals and or/locking mechanisms will be utilized for retardants, chemicals and hazardous materials
- Plan must address the following procedures
 - Preflight security procedures/checks
 - Aircraft theft and hijacking response procedures
 - Aircraft ramp procedures
 - Aircraft hangar procedures (if applicable)
 - Security breach response procedures
 - Incident reporting protocol
 - Challenge procedures for unauthorized personnel
 - Emergency contact names and contact information
 - Pre-use inspection procedures for any retardants, chemicals and hazardous materials

- Plan must identify any areas of facility that are “Restricted”
 - Identify whether fixed-wing or rotor-wing parking is “Restricted”
 - Specify identification system used for “Restricted” areas
 - Color coded shirts, hats, jackets, etc.
 - ID badges
 - Other technique
- Plan must ensure information protection
 - Ensure protection of security codes
 - Specify intervals to change/update security codes

(See “CDF Aircraft and Base Security Checklist”)

REPORTS AND RECORDKEEPING **8331.6**
 (Revised September 2001)

FLIGHT LOGS AND RECORDS **8331.6.1**
 (Revised September 2001)

The aviation management program utilizes a substantial part of CDF's budget and thus is subject to scrutiny by CDF, other state agencies, legislators and others involved in state fiscal management.

The aviation management and accounting sections require accurate data and documents for disbursing funds, evaluating aircraft activities and planning future needs.

Air attack and helitack base managers are responsible for providing this information through the use of accurate timekeeping methods, standard recording and reporting formats and consistent evaluation criteria.

The Aviation Information Management System (AIMS) computer program is now the primary means of logging all flight activity for airplanes other than Call-When-Needed (CWN) and is also the primary means of logging all flight activity for CDF helicopters other than "Call-when-needed" aircraft.

VISITORS **8331.7**
 (Revised September 2001)

All visitors must be treated with courtesy and respect by all base personnel.

All visitors to a base will remain under the control of a responsible person assigned to the base (other than when in identified visitor areas).

Permission will be obtained from the base manager prior to taking any visitor(s) into working areas, ramp, pad or other aircraft operating areas and around aircraft.

Visitors will remain under the control of the person(s) with responsibility for their safety while at the base.

This responsible person may be anyone assigned to the base, either CDF or contract crew member, who is trained to ensure visitor safety and authorized by the on-duty base supervisor.

CDF or contract personnel receiving personal visitors at a base automatically become the person responsible for the safety of those visitors.

Safe, controlled public access should be provided to each air attack base facility to satisfy the public right to information, to promote good public relations and to generate interest in CDF operations. Where possible, a safe area should be provided for public viewing of air tanker reloading operations.

Specific procedures for handling visitors will be included in the base operating guide.

BASE OPERATING GUIDES **8331.8**
(Revised September 2001)

GENERAL **8331.8.1**
(Revised September 2001)

Each base manager is responsible for making a formal plan based upon and supplemental to existing CDF policies, rules and regulations including those contained in this handbook, for use in directing and managing base operations.

The operating guide for each base will include the specific instructions and procedures for carrying on day-to-day and emergency operations at that base.

Each base operating guide will include the general responsibilities for assigned personnel, instructions for performing operations safely and effectively, and provisions for appropriate training of all personnel assigned to the base.

All base operating guides will follow the standardized format that can be found in Base Operating Guide Format (*coming soon*).

FIRE AND RESCUE
(Revised September 2001)

8331.9

CRASH FIRE RESCUE
(Revised September 2001)

8331.9.1

There is always a possibility of an incident involving aircraft and CDF aircraft are no exception. It is the Department's intent that personnel working at air attack and helitack assignments be familiar with potential incidents involving the aircraft that they work with and train on crash fire rescue procedures.

It is also emphasized that the majority of these personnel are not and will not be trained or equipped or qualified in crash fire rescue work. The crash fire rescue procedures put in place by each base are intended to allow employees to safely deal with these types of incidents as a first responders.

See [Guidelines for Ground Personnel Aircraft Fire](#) for ground personnel dealing with aircraft fires.

FIRE PROTECTION/CRASH FIRE RESCUE PLANS
(Revised September 2001)

8331.9.2

As part of the base operating guide there will be a fire protection crash fire rescue plan.

Supervisors at each base will establish fire protection plans for structural, vehicle and aircraft protection, including rescue and fuel spill handling procedures.

These plans will be included in the base operating plan and posted. All base personnel will be trained to effectively carry out the plans, including the use of available fire protection equipment and fire fighting safety gear.

On bases where no organized fire protection service exists, base managers are encouraged to improve their fire fighting capabilities as much as possible within the existing legal, administrative and fiscal limitations

RAMPS/PADS/PITS
(Revised September 2001)

8331.10

All air attack base taxiways and pits and heliport markings and pads should be marked to assist pilots and prevent unauthorized aircraft entry.

Markings must comply with all applicable FAA specifications.

PAD/RAMP OPERATIONS
(Revised September 2001)

8331.10.1

AIRCRAFT DIRECTION AND HAND SIGNALS
(Revised September 2001)

8331.10.2

Standard hand signals will be used for direction of all aircraft operating to, on, and from air attack and helitack bases, except when radio communications are established and there is no possibility of an aircraft encountering people or obstacles.

Base ground support personnel and pilots will be trained together in the use of hand signals and procedures for use in and around loading areas.

Signals will be given to a pilot by one person only, at any one time, to prevent confusion and the possibility of giving conflicting directions.

The person giving directions should wear a high visibility vest and must remain in clear view of the pilot being directed. All transfers of aircraft control/direction must be positive between both parking tenders and pilot.

More specific instructions for aircraft direction are included in the standard hand signals for use with fixed wing aircraft - see [Fixed Wing Hand Signals](#); for helicopters, see [Helicopter Hand Signals](#).

Personnel Identification

During large operations, for the ease of identification and to promote a safe working atmosphere, it is recommended that the following positions be identified by the use of colored vests as follows:

- RAMP MANAGER - FLOURSCENT GREEN
- PARKING TENDER - FLOURSCENT ORANGE
- LOADERS – BLUE
- FUELING PERSONNEL – PURPLE

(see next section)

(see HB Table of Contents)

(see Forms or Forms Samples)